Poster: Sensor Networks in Laboratory Automation

Authors: Ralf Joost (ralf.joost@uni-rostock.de)
            Dr. Frank Golatowski (frank.golatowski@uni-rostock.de)
            Prof. Dr. Dirk Timmermann (dirk.timmermann@uni-rostock.de)

Abstract:
Sensor networks become ever more important in domains of laboratory automation and life science. Since they offer the possibility to monitor and manage complex processing parameters, they are seen as one of the driving technologies in this field. The University of Rostock has set up a prototype network, consisting of various network nodes in the Celisca building to evaluate the usefulness and robustness of such networks. The network traces the temperature in different rooms and offices. To allow a broader application, currently the University of Rostock is introducing new types of sensors to the network nodes, such as gas, humidity and light sensors. The actual net can be viewed by using a web interface, which generates and translates all messages from and to the network. For future demands, the Institute of Applied Microelectronics implements a new, service orientated approach to simplify the access to the network. Therefore, a gateway serves as service station, that automatically detects and identifies end-user terminal devices, such as PDAs, smart phones and laptops. After the identification process, the gateway offers its available services to those devices. This approach allows for a guided, secured access to the network and its nodes without any further configuration of the desired end devices.